



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,356	05/01/2001	Masayuki Mishima	Q64324	2603

7590

07/28/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037

EXAMINER
----------

YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
----------	--------------

1774

11

DATE MAILED: 07/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/845,356	<b>Applicant(s)</b> MISHIMA, MASAYUKI	
	<b>Examiner</b> Marie R. Yamnitzky	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 10, 2003, which amends claims 8, 10 and 17 and adds claims 18-24, has been entered.

Claims 1-8 and 10-24 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations imposed by the term "main" in the phrase "a main component" as recited in claim 19 are not clear. It is not clear if this language places a specific limitation on the minimum amount of light-emitting material that must be present in the non-doped light-emitting layer and, if so, if the minimum amount is determined by weight, volume or moles.

3. Claims 1-8 and 10-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Baldo et al. in *Appl. Phys. Lett.* 75(1), pp. 4-6 (July 5, 1999) or Forrest et al. (US 6,310,360 B1), either reference in view of Egusa et al. (US 5,294,810) for reasons of record in Paper No. 6.

4. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldo et al. in *Appl. Phys. Lett.* 75(1), pp. 4-6 (July 5, 1999) or Forrest et al. (US 6,310,360 B1), either reference in view of Egusa et al. (US 5,294,810) as applied to claims 1-8 and 10-17 in Paper No. 6, and for the further reasons set forth below.

With respect to claim 18: The two light emitting materials in Baldo's devices emit light when an electric field is applied across the electrode. While Baldo et al. teach that blue emission from CBP is negligible, this does not mean that there is zero light emission from CBP. Forrest's devices also provide light emission from more than one light emitting material when an electric field is applied across the electrode. For example, see Fig. 3 and column 14, lines 22-35 of the Forrest patent. Further, one of ordinary skill in the art at the time of the invention would recognize that in order to provide a white light emitting device as taught by Egusa et al., a device would have to be provided with two or more different light-emitting materials that emit light when an electric field is applied across the electrodes of the device.

With respect to claim 19: As noted in Paper No. 6, Egusa et al. teach that it is possible to achieve emission of white light from a device comprising multiple light-emitting layers and from a device comprising a mixture of light-emitting materials. It would have been an obvious modification to one of ordinary skill in the art at the time of the invention to provide light-emitting devices similar to those disclosed by Baldo et al. or Forrest et al. but utilizing one or more additional light-emitting materials in a non-doped light-emitting layer separate from the layer comprising the iridium complex. One of ordinary skill in the art would have been motivated to do so in order to provide a device having the advantages of using a phosphorescent

material as taught by Baldo et al. or Forrest et al. while at the same time being able to provide a device emitting white light as suggested by Egusa et al.

With respect to claim 20: CBP is capable of transporting electrons as well as holes. It also would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to include other known materials in the light-emitting layer based on the benefits provided by the properties of a particular known material.

With respect to claim 21: Baldo's devices include an electron-transporting layer between the light-emitting layer and the cathode (e.g. see the paragraph bridging pages 4 and 5).

Forrest's devices also include an electron-transporting layer between the light-emitting layer and the cathode (e.g. see Example 1).

With respect to claim 22: Egusa et al. teach that it is possible to achieve emission of white light from a device comprising multiple light-emitting layers. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum arrangements of multiple light-emitting layers in order to provide a device emitting white light.

With respect to claim 23: The thickness of the light-emitting layer of Baldo's devices and of Forrest's devices is less than the minimum thickness required by claim 23. Egusa et al. disclose light-emitting layers having thicknesses within the range set forth in claim 23. Absent a showing of criticality for the claimed range, it is the examiner's position that it would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum thicknesses for the light-emitting layer(s) of a device.

With respect to claim 24: This claim is a substantial duplicate of claim 6. The limitations of this claim are met as noted in the first two sentences on page 4 of Paper No. 6.

5. Applicant's arguments filed April 10, 2003 have been fully considered but they are not persuasive.

Applicant's arguments are believed to be fully addressed in the rejections taken in combination with the examiner's response to prior arguments as set forth on pages 7-8 of Paper No. 6.

6. Applicant is advised that should claim 6 be found allowable, claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

7. Miscellaneous:

In claim 21, the phrase "wherein further comprising" is grammatically incorrect.

In claim 24, the phrase "is in amount" is grammatically incorrect.

8. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

Art Unit: 1774

The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final  
faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be  
sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY

July 25, 2003



MARIE YAMNITZKY  
PRIMARY EXAMINER

1774